Neuro-Intervention Costs

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Introduction

The majority of the world's population has very limited access to health care and almost no access to high technology care. Furthermore 89% of annual world health expenditure is spent on 16% of the world's population concentrating on diseases that have little relevance to the bulk of the world's population [1]. Neuro-endovascular interventionists – as well as other specialists - must concede that use of technologically sophisticated equipment and technology contributes to the high costs of providing medical care. It may be argued that these costs are justified by the lives saved and disabilities prevented. As sound as this argument may be, however, it is generally only the lives of privileged people that can benefit from the skills of the interventionist.

Many doctors believe that they are ethically obligated to provide the best available level of care to all of their patients, despite the costs. They may reject any responsibility to engage with issues such as health economics, rationing and allocation of limited medical resources. These problems, they would argue, must be solved by politicians, policy makers, and medical authorities – not individual doctors.

An alternative view is that interventionists have a moral obligation to help improve the lives of those patients who can benefit from their skills and who are presently unserved or underserved. Following this approach, interventionists would become more engaged in debates about fair, efficient distribution of our limited medical resources.

The disparity between people in the world who have education, financial and other resources is increasing. Radical transformation of global economies through the spread of democracy and capitalism have failed to produce a more equitable global distribution of health care.

The developing world's per capita spending on health is often less than 5 USD per annum as compared to the USA's 4000 USD. The re-emergence of infectious diseases, as well as new diseases like AIDS and SARS, make us aware though that individual health is influenced by global health [2]. All inhabitants of our planet – rich and poor alike – have a common stake in improving the status of global health.

This argument may not seem compelling or relevant to interventionists focused on providing highly specialized care to individuals afflicted by a narrow band of diseases, such as vascular disease. However, doctors must recognize that no effort to rationally and fairly dis-

tribute specialty health care can succeed without their cooperation. Doctors working in the developed world can best lead by their example in striving to achieve distributive justice in allocation of limited medical resources in their own countries. Many of the developed world's health care systems are in trouble. Expenses continue to escalate annually in double-digit figures, and waiting lists for operations and scans get longer [3,4].

Neither wealthy nor underdeveloped countries can indefinitely sustain the political and economic burden of escalating costs rising and rising expectations of their citizens for better health care. To meet this challenge will require the joint efforts of many stakeholders, and most critical among these are clinicians who care for patients and determine what treatments they should be offered.

Many factors limit the wider provision of neuro-endovascular and other specialty care to poorer populations. Among these are the protracted training period, extensive and expensive infrastructure needed, and high costs. Despite these obstacles, interventionists must recognize that they have an ethical obligation not only to advance the level of care, but also to seek to provide decent, affordable care to a larger number of needy patients who cannot pay for the best, most expensive treatment. Inevitably this will require interventionists to make greater efforts to reduce the cost of providing good quality care to patients. But is this practical in wealthy countries in which patients have unrealistically high expectations of their specialists, and doctors rarely act to limit their patients' appetite for the latest technological advances that make the most extravagant claims?

Cost Reduction Strategy

Care Standard vs. Gold Standard

Enormous progress has been made in the past decade in neurointervention. Examples include new imaging modalities, catheters and embolic materials. Previously untreatable diseases are now treatable. However, these advances have come at great expense. Examples of new but very expensive devices include flexible stents and coated coils, and surely more new devices can be expected that will further fuel inflation. We should distinguish between an acceptable, decent standard of care that can be achieved by a competent doctors using standard tools – though not necessarily the best, most expensive devices - and the gold standard. Too often interventionists assume that they must provide the gold standard - the very best care – to all patients, regardless of its cost or affordability. This 'defensive' approach often arises out of a doctor's concern to take all possible steps to protect against a claim of malpractice. All too often the most advanced, expensive devices such as imaging equipment or catheters are promoted as the gold standard. Interventionists should accept, however, that a good level of care may be provided with currently available, often less expensive, equipment and that they need not constantly upgrade to the newest drugs and devices, many of which are more expensive than current treatment options and provide only marginal, if any, additional benefit.

Physician / Industry Relationships

Constructive relationships between physicians and the industry have generated many positive technological advances. Partnerships that produce useful, affordable new technology should be encouraged. There is, however, a negative side to this interaction [5]. Although not all are successful and many fail, medical device companies can be very profitable. It is a hard truth of capitalism that investors who face a high risk of failure can demand high returns on their investment. Doctors play a critical role in assisting investors to obtain their high profit when they adopt and use new equipment and impose additional costs on patients and third party payers. As they decide whether and when to make use of expensive new devices, clinicians should distinguish between reasonable profit making, the legitimate object of investing, and profiteering. Profiteering occurs when doctors prescribe or use new drugs or devices that, although they may offer some possible additional benefit, are both unaffordable by patients and their insurers and in many cases unnecessary. Patients do not choose their illness and are at the mercy of people providing their care. They have little control over the cost of that care in an environment where products are protected by patents and costs are determined by what the market will tolerate rather what is reasonable.

Other aspects of the physician / industry relationship need to be considered. Many conferences, workshops and continuing education programs would not be possible without industry participation. These are valuable in maintaining levels of skill, standards of practice and result in improved patient care.

However, these benefits come at a cost that is ultimately borne by our patients through higher product prices. Although not a widespread practice, some countries, including South Africa, have taken legislative steps to limit the types and value of gifts and sponsorships provided by pharmaceutical and medical device companies to doctors. These rules will be difficult to enforce, and government regulation may not be the best answer to the problem. Failing any serious effort by medical and specialty associations to regulate themselves, we are likely to see more stringent regulation of corporate-clinician relationships that drive up the costs of medical care.

Practicably Achievable' Standard of Care

'Keep it safe and simple' can be a useful guiding principle for many aspects of medicine, but it is one that is often ignored. In neuro-intervention, for example, doctors are tempted to seek the perfect radiological result by using the smartest tools. Sometimes the task may be accomplished with less expensive tools without the same image aesthetics. For example, a patient with a giant cavernous aneurysm may need to be managed with a remodeling technique and embolization.

On the other hand, if the patient has good collateral circulation and tolerates an occlusion test, a simple carotid balloon closure will often achieve the same clinical outcome. When working in an environment with limited resources, this kind of cost saving allows more patients to be treated.

At professional meetings and in publications interventionists tend to concentrate on the technically challenging aspects of their work that utilize the latest state of the art – and significantly more expensive – new drugs and devices. This narrow focus gives the impression that costly technology is the standard of care that ought to be provided to all patients everywhere. But this approach to patient care is no longer practically achievable, if it ever was, even in the United States – the richest country that spends half of the global expenditures on medical care on less than 5% of the planet's population [6].

We should also emphasize that low technology treatments are not only acceptable, but in many cases are the best care in context of local health priorities constrained by limited budgets. This has been characterized as a 'practicably achievable' standard of care, one that can be applied in both wealthy developed countries as well as the underdeveloped world [7].

The neuro-interventional discipline has advanced tremendously in the past decade through positive collaboration between industry, doctors and policy makers in terms of what we can treat. However, it is increasingly clear that use of new technology has imposed a great economic burden on both private and public health care sectors. As costs of new drugs and devices escalate, more resources are poured into treating a smaller number of patients at the expense of many who are left untreated or undertreated.

The time has come to re-examine our instinctive impulse as interventionists always to provide the very best intervention – the gold standard – even when this is very costly and sometimes unaffordable. We have suggested a standard of care that provides a decent, practicably achievable level of treatment using tested, standard interventions. We need not succumb to the technological imperative to use the very best, most expensive intervention simply because it is there. On a global scale, this more modest approach could generate significant cost savings that in turn would allow specialists to treat more patients.

By providing neuro-intervention to a larger number of needy patients, specialist communities would accomplish two important things. First, they would fulfill a moral obligation to seek to distribute health care justly and efficiently to a greater number of needy patients. Second, this approach would serve as a practical, realistic response to growing health costs and help to close the gap between the haves and the have-nots, a disparity that politically and economically cannot be sustained in the long term.

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